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ABSTRACT

This report summarizes research on the role of English oral proficiency in acquiring English literacy, noting issues that English language learners (ELLs) encounter because of their developing English oral proficiency and discussing best practices in supporting English language development in the context of literacy instruction for those students. The report focuses on the vast majority of ELLs who are not learning disabled but require time to become English proficient. Studies cited are mainly drawn from research conducted with children learning English as a Second Language where English is the societal language. The report addresses the relationship between oral language proficiency and literacy and examines a review of second language instruction. It describes what the research says about effective literacy instruction for English speaking students, issues facing ELLs, and promising practices for promoting English literacy for ELLs. It reviews family literacy and special education programs and discusses cross-cutting issues in literacy acquisition, including assessments and benchmarks, accommodating multiple levels of English proficient students in literacy instruction, and integrating subject matter into literacy instruction. Finally it recommends further research on the literacy development among ELLs, particularly in the areas of technology and comprehension. (Contains 114 references.) (SM)

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SUPPORTING THE DEVELOPMENT OF ENGLISH LITERACY IN ENGLISH LANGUAGE LEARNERS

Key Issues and Promising Practices

Diane August

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THE CENTER

Every child has the capacity to succeed in school and in life. Yet far too many children fail to meet their potential. Many students, especially those from poor and minority families, are placed at risk by school practices that sort some students into high-quality programs and other students into low-quality education. CRESPAR believes that schools must replace the "sorting paradigm" with a "talent development" model that sets high expectations for all students, and ensures that all students receive a rich and demanding curriculum with appropriate assistance and support.

The mission of the Center for Research on the Education of Students Placed At Risk (CRESPAR) is to conduct the research, development, evaluation, and dissemination needed to transform schooling for students placed at risk. The work of the Center is guided by three central themes—ensuring the success of all students at key development points, building on students' personal and cultural assets, and scaling up effective programs—and conducted through research and development programs in the areas of early and elementary studies; middle and high school studies; school, family, and community partnerships; and systemic supports for school reform, as well as a program of institutional activities.

CRESPAR is organized as a partnership of Johns Hopkins University and Howard University, and supported by the National Institute on the Education of At-Risk Students (At-Risk Institute), one of five institutes created by the Educational Research, Development, Dissemination and Improvement Act of 1994 and located within the Office of Educational Research and Improvement (OERI) at the U.S. Department of Education. The At-Risk Institute supports a range of research and development activities designed to improve the education of students at risk of educational failure because of limited English proficiency, poverty, race, geographic location, or economic disadvantage.

ABSTRACT

The purpose of this report is to summarize research on the role of English oral proficiency in acquiring English literacy, describe the issues that English-language learners (ELLs) encounter because of their developing English oral proficiency, and report on best practices in supporting English language development in the context of literacy instruction for these students. Of primary interest in this report is the vast majority of ELLs who are not learning-disabled, but require time to become English proficient. Further, this report focuses on school-aged children. To a large extent, the studies cited here are drawn from research conducted with children who are learning English as a second language where English is the societal language.

The report first addresses the relationship between oral language proficiency and literacy and reported on a review of second language instruction. Then, component by component, it describes in detail what the research tells us about effective literacy instruction for English-speaking students, the issues that English language learners face, and promising practices for promoting English literacy for English language learners. The report next reviews family literacy programs and special education programs and discusses cross-cutting issues in the acquisition of literacy, including assessments and benchmarks, accommodating multiple levels of English proficient students in literacy instruction, and integrating subject matter into literacy instruction.

Finally, it concludes with a plea for additional research on the development of literacy for English language learners and brief mention of two areas worthy of considerable additional attention—technology and comprehension.

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INTRODUCTION

Immigration has brought about significant changes in the U.S. student population. In particular, the number and percentage of immigrants in schools have increased dramatically since 1970. From 1970 to 1995, the number of immigrant children, ages 5 to 20, living in the United States more than doubled, from 3.5 to 8.6 million. As the number grew, immigrant children represented a larger percentage of students in U.S. schools, increasing from 6% in 1970 to 16% in 1995 and 19% in 1997 (Ruiz de Velasco & Fix, 2000). While their numbers have increased, English language learners (ELLs) lag significantly behind their fluent English-speaking peers in reading. For example, in California, ELLs participating in state-mandated standardized testing performed worse at all grade levels and were substantially more likely to score below the nationally ranked 25th percentile. In addition, ELLs are substantially less likely than their peers to finish high school. About 20% of these 16-to-24-year-olds, compared to 10% of their English-speaking counterparts, were not enrolled in school and did not have a high school diploma (Ruiz de Velasco & Fix, 2000).

Oral English language proficiency plays a role in children's ability to read in English. Moreover, the acquisition of oral English proficiency does not occur overnight. Recent research by Hakuta, Butler, and Witt (1999) indicates that even in districts considered the most successful in teaching English to ELLs,[1] oral English proficiency takes 3 to 5 years to develop, and academic English proficiency (defined by student performance on a variety of standardized English reading tests[2]) can take 4 to 7 years.

Purpose and Scope of the Report

The purpose of this report is to summarize research on the role of English oral proficiency in acquiring English literacy, describe the issues that English-language learners (ELLs) encounter because of their developing English oral proficiency, and report on best practices in supporting English language development in the context of literacy instruction for these students. Of primary interest in this report is the vast majority of ELLs who are not learning-disabled, but require time to become English proficient. Further, this report focuses on school-aged children. To a large extent, the studies cited here are drawn from research conducted with children who are learning English as a second language where English is the societal language. This represents an attempt to control for several variables, including the target language (language to be learned) and the sociopolitical context in which the language

[1] English language learners are defined as children who come from language backgrounds other than English and whose English proficiency is not yet developed to the point where they can profit fully from English-only instruction.

[2] Academic English proficiency is defined by student performance on a variety of standardized reading tests, including the MacMillan Informal Reading Inventory, the Woodcock Language Battery, and the Degrees of Reading Power Test.

is learned. This may impact reading development in a second language and, thus, impede generalizations across target languages and language-learning settings (Grabe, 1991).

It should be noted from the outset that this report, although focusing on the development of English literacy, does not advocate English-only instruction for ELLs. Research indicates that children who acquire literacy skills in a first language transfer those skills to their second language (Fitzgerald, 1995; Garcia, 1998). Collier and Thomas (1989) report that children who had attended school and learned basic literacy skills in a native language before emigrating to the United States achieved academic parity with peers as soon as they had acquired proficiency in English in U.S. schools. In contrast, younger children showed long-lasting negative effects on academic achievement associated with initial literacy instruction in English (Collier & Thomas, 1989). Similar findings for Finnish speakers in Sweden have been reported by Skutnabb-Kangas and Toukomaa (1979, cited in Snow, Burns, & Griffin, 1998). Not all contexts allow for primary-language instruction, however, and thus there is a need for high-quality programs that instruct ELLs in English only (Genesee, 1999). Also, English literacy is an important component of all bilingual programs. Finally, as a practical matter, because literacy is so important in all academic areas, ELLs must be given every opportunity to become competent English readers.

Method Used to Conduct the Review

To locate relevant publications, the author of this review searched the ERIC, PsychInfo, LLBA, and Sociological Abstracts databases using limiters related to literacy and ELLs. The keywords used in the different databases varied because each database has its own categorization of keywords and subject headings. In general, keywords defining the population (English as a second language, limited English proficient or LEP, non-English speaking, bilingual, linguistic minorities, and/or immigrants) were combined with keywords describing reading and language (reading, literacy, language acquisition, second language learning, writing, language/reading/speech development, oral/verbal communication, vocalization, voice, and grammar). A "network" approach was also used. That is, reference lists of relevant documents were checked for additional publications, and relevant publications were reviewed.

For this review, the author selected a subset of studies that was best able to clarify the relationship between oral proficiency and literacy for second language learners, as well as to highlight effective practice in the various component skills of reading. Only empirical research was included in these sections of the report.

Organization of the Report

The report first discusses the relationship between oral language proficiency (OLP) and literacy. Next, it turns to a review of second language instruction. Then, component by

component, it describes in detail what the research says about effective literacy instruction for English-speaking students, the issues that ELLs face as they learn to read and write English, and effective practices for promoting English literacy for ELLs. The components, in the order they are addressed, are: phonological awareness, word reading, fluency, word knowledge, and comprehension. The report concludes with a discussion of cross-cutting issues in literacy, including assessments and benchmarks, multiple levels of English proficiency among students, and integration of subject matter into literacy instruction, family literacy, and special education.

RELATIONSHIP BETWEEN ORAL LANGUAGE PROFICIENCY AND READING

Relationship Between First Language Oral Proficiency and First Language Reading

According to Geva and Petrulis-Wright (1999), one of the difficulties involved in investigating the relationship between oral language proficiency and reading is that neither oral language proficiency nor reading represents a single skill. Rather, each comprises a complex set of skills. According to a broad definition, reading comprises decoding and comprehension-based processing. Oral language includes such components as vocabulary (lexical knowledge), syntax (knowledge of the rules of sentence formation), phonology (being able to perceive and produce the phonemes that form the sound system), and morphology (knowledge of the rules of word formation). In addition, some researchers (Cummins, 1991; Peregoy & Boyle, 1991) posit that general cognitive/academic maturity underlies both oral language proficiency and literacy.

A study of the relationship between oral proficiency and literacy is further complicated because each skill is dynamic and varies at different developmental stages (Chall, 1996). For example, beginning readers focus primarily on decoding individual letters and words. For skilled readers, decoding has become more automatic, so they focus on comprehension. There are also changes as children develop oral language proficiency. Geva and Petrulis-Wright (1999, p. 4) provide a useful summary:

> *At an early stage, the young infant learns to produce the phonemes necessary for first language speech; from age one to three the child acquires between 1,000 and 3,000 words and starts to connect words into simple sentences; from three to five, the child learns concepts like rhyming and basic morphological rules; from five to eight, the child's language becomes increasingly advanced, with the addition of complex phonology and more elaborate syntactic, morphological and cohesive structures. Throughout the process the child is learning about the social context of language.*

Chall (1996) suggests that from birth to around age eight, OLP precedes reading development, and afterward, as the language in reading materials becomes more advanced than the child's OLP, reading contributes to its development. When children begin reading in their first language (L1), the text they are reading is considerably below their level of oral language proficiency; their focus is on learning the print-sound code. In second and third grades, children read material that requires more advanced vocabulary and more developed syntax. From fourth grade on, they read more advanced texts, which include unfamiliar vocabulary, more complex syntactic structures, and new information. This begins to contribute to oral language proficiency (Chall, 1989; Chall, Jacobs, & Baldwin, 1990).

Relationship Between Second Language Oral Proficiency and Second Language Reading

According to Peregoy and Boyle (1991), general second language (L2) proficiency can be defined as the core of L2 linguistic knowledge that applies to both oral and written language. Although listening, speaking, reading, and writing differ in many ways and although it is possible to separately assess proficiency in each, it, nevertheless, can be argued that the four processes share many features from the lexical, syntactic, and semantic systems of the language. This common core can be defined as general language proficiency. The positive correlations reported in the literature between oral language and reading performance can be substantially explained by their common dependence upon general L2 proficiency. Thus, general L2 language proficiency places a "ceiling" on reading comprehension (Devine, 1988). General L2 proficiency places a ceiling on listening, speaking, and writing as well.

To avoid confusion, this review seeks to examine the relationship between oral proficiency in English for second language learners and their English literacy. Researchers have documented a relationship between oral language proficiency and second language reading. For example, Peregoy (1989) conducted a multiple case study with six lower-SES, Spanish-speaking, Mexican American fifth graders. Its goal was to examine their language and reading performance in Spanish and English. Subjects represented three different levels of English proficiency. All subjects attended the same bilingual education program, four since kindergarten and two since third grade. Results suggested that second language oral proficiency was positively related to reading comprehension for these children. An analysis of line-by-line reading in English indicated that the low scores of the less English-proficient students resulted from limited vocabulary and insufficient sensitivity to syntax. In addition, decoding difficulties occasionally emerged. The researchers also found that the low proficiency pair, although scoring low in English, scored high in Spanish. This verifies that they were good readers, and helps isolate second language proficiency as a major source of their difficulty.

In a second study, Peregoy and Boyle (1991) sought to determine the specific linguistic dimensions of L2 oral proficiency that differentiate low, intermediate, and high L2

readers. Four features of oral proficiency were examined: grammatical complexity, well-formedness, informativeness, and comprehension. Grammatical complexity is concerned with the structural complexity of utterances—a function of both length and presence of relational devices such as conjunctions and cohesive ties. Well-formedness refers to correct grammar. Informativeness describes the amount and quality of information provided in response to specific questions, and comprehension refers to the understanding of questions demonstrated by appropriate response.

Subjects were 57 low-SES, Spanish-speaking third graders of Mexican descent, who began learning English as a second language in kindergarten or first grade. Subjects had at least two years, but not more than three years, exposure to English. The subjects were divided into three groups according to their performance on auditory vocabulary and word reading subtests of the Stanford Diagnostic Reading Test.

Reading data were collected on each student individually, using four short passages followed by multiple choice questions developed by the author. Second language oral language data were collected using the Shell Game, an individually administered, simulated science lesson about seashells designed by Wong Fillmore and colleagues (1982).

Data analysis compared L2 oral proficiency characteristics exhibited by low, intermediate, and high L2 readers. Results indicated mean scores on each oral language feature increase monotonically, with Group 1 (low L2 readers) performing the lowest. This pattern is consistent except for well-formedness; here, the low and intermediate groups were about identical. The second finding is that there is a lot of variation in oral proficiency in each group of readers. However, the most variation can be found among the poorest readers. And the variation increases as one moves from the best to the worst readers. The authors state that this is because some children in the lowest reading group were relatively orally proficient in English (after two years of schooling in English), but still couldn't read well. In summarizing the findings, the authors note that all four oral language proficiency features yielded differences among low, intermediate, and high L2 readers. These differences were always significant between low and high groups for all four features. Where differences were not significant between groups, there were trends in the direction of low to high.

Although research has indicated a relationship between L2 oral proficiency and L2 literacy, there has been considerable debate regarding the implications of this relationship for instruction: How proficient must a student be before beginning literacy instruction in English? A recent National Research Council report (Snow et al., 1998) and an International Reading Association resolution (1998) suggest that if native language reading instruction does not precede or coincide with English reading instruction, then English reading instruction should be delayed until a modicum of oral English proficiency has been achieved (cited in Fitzgerald, 1999). Others (most notably Fitzgerald, 1995, 1999) question this one-way relationship between second-language oral proficiency and second-language reading. Fitzgerald (1999, p. 22) notes that "...these correlational studies do not provide support either for the position that English orality must precede English reading or vice versa." She

maintains that findings are mixed, and the direction of the relationships has not been fully investigated. Furthermore, she cites evidence that orality and literacy can develop together (Fitzgerald & Noblit, 1999).

A recent study by Geva and Petrulis-Wright (1999) confirms the position that oral English proficiency and literacy can develop concurrently, at least in young children. The study examined the relationship between three aspects of oral language proficiency (OLP)—vocabulary, grammar, and listening comprehension—and three aspects of English reading skills—pseudoword decoding, word recognition, and reading comprehension. The study involved 31 first graders beginning English reading in their first language, and 63 Punjabi children beginning English reading in their second language. It followed these children for one year. Children who had not lived in an English-speaking country for at least four months were excluded.

Not surprisingly, results indicate that L1 and L2 children differed in English OLP. The L1 group had larger expressive and receptive vocabularies, and was better able to repeat sentences varying in grammatical structure, to judge the grammatical correctness of English sentences, and to comprehend stories they listened to more accurately than their L2 counterparts. Moreover, the linguistic skills of L2 learners continued to be lower than their counterparts in grade two, although both groups showed steady improvement between first and second grades. In spite of these OLP differences, the two groups did not differ on reading skills, which improved steadily for both groups over the course of the study.

According to the authors, the absence of L1-L2 group differences on reading measures does not indicate that OLP is not related to reading. Beginning, normally developing L1 readers have the oral language tools necessary to approach beginning reading, and in fact, their oral language may exceed the language demands of early reading texts. The L2 pattern, however, was not a replica of the L1 pattern. In the L2 group, with the exception of listening comprehension measures, OLP was positively and significantly correlated with both word-based reading indices and reading comprehension. The linguistic knowledge of L2 learners does not surpass the linguistic demands of the reading tasks. Thus, those L2 learners whose oral language is relatively better developed tend to be those whose reading skills are also better developed. This suggests that the framework suggested by Chall may differ for second language learners at least initially; oral language proficiency plays a role in both isolated reading tasks such as pseudoword learning as well as in reading comprehension. Geva (p. 24) suggests that at least initially "OLP plays a different and perhaps more holistic role in young ESL learners than it does in L1 learners. With regard to decontextualized reading tasks, vocabulary may be a proxy for other, cognitive-linguistic processes, such as phonological awareness and phonological memory, which underlie oral and reading skills development and which drive vocabulary growth as well as reading skills development in L1 learners."

The results suggest that lack of general oral language proficiency should not explain consistent difficulties in acquiring decoding and word recognition skills among L2 learners. Even in the absence of linguistic fluency on these tasks, normally developing children can

learn to read words and decode nonwords accurately. Persistent difficulty on these tasks, in spite of adequate instruction, suggests that the problem may be primarily in basic cognitive domains (e.g., phonological processing skills, naming speed) and not in an underdeveloped OLP. Second, different components of OLP correlate with different components of literacy; well-developed listening skills and relative ease in understanding the spoken word are typically associated with more advanced reading comprehension. At the same time, the ability to perform other linguistic tasks, such as focusing on word meaning or attending to the grammatical accuracy of utterances they listen to, is related to young children's ability to read words out of context and to decode unknown words. Word recognition skills are in turn related to reading comprehension. Thus, instruction should target language development as well as word recognition

There is also evidence that second-language learners' oral development can be enhanced through second language reading instruction (e.g., Elley, 1981; Elley & Mangubhai, 1983). Anderson and Roit (1996), Gersten (1996), and others maintain that reading instruction focused on second-language comprehension can be helpful to learners at all levels of second-language oral proficiency (even for those with learning disabilities [Klingner & Vaughn, 1996]), and, in fact, that second-language reading comprehension can generate gains in second-language oral skills. With regard to beginning reading skills, Vernon and Ferreiro (1999) found that oral communication alone did not contribute to children's awareness of the sound structures of language. Their findings suggest that reading and writing activities may contribute to children's awareness of sound structure because as they read and then begin to write words that have meaning for them, they begin to analyze their own speech. This, in turn, promotes early reading development.

The research has focused on the relationships between components of oral language proficiency and components of literacy. Clearly, there is a relationship between second language oral proficiency and second language literacy. Questions remain regarding the nature of this relationship, however. The studies cited above suggest that it is important to clearly define the component skills of oral proficiency and literacy when examining relationships. For example, in the study by Geva and Petrulis-Wright (1999), had listening comprehension been used as the only measure, the authors would have concluded erroneously that oral proficiency does not predict basic reading skills. It is also important to "contextualize" relationships between oral language proficiency and literacy because the demands at different levels of literacy may impact the relationship between these variables. For example, as hypothesized by Chall (1996), a strong language background may be of primary importance in the later reading stages, when skills associated with speech comprehension are targeted, whereas it plays less of a role for younger children reading texts that demand less language knowledge. Other factors, including the quality of classroom instruction, and child background variables such as prior knowledge and native language literacy, may impact the relationship.

EFFECTIVENESS OF SECOND LANGUAGE INSTRUCTION

It is important to review what we know about effective second language instruction, in light of the relationship between English oral proficiency and literacy. In a recent study, Norris and Ortega (2000) employ systematic procedures for research synthesis and meta-analysis to summarize findings from experimental and quasi-experimental investigations into the effectiveness of L2 instruction. This is the first study to synthesize L2 instructional research using meta-analysis. It should be pointed out that most of the studies were conducted with adult learners (79%); only 16 of the 77 studies included non-adult subjects (1 elementary, 10 junior high, and 5 high schools). Furthermore, only 40% of the studies took place in second-language or immersion settings. The other studies took place in foreign-language settings. Notable in examining the effectiveness of strategies for developing language proficiency in children is that the authors found so few experimental and quasi-experimental studies of school-age second language learners in a context in which the L2 is the societal language.[3]

Several descriptive models for types of L2 instruction characterize the studies of instructional effectiveness. Long (Long & Robinson, 1998) had proposed that instructional options can be of three types, depending on whether instruction requires learners to focus on meaning, forms, or an integration of the two. According to Long, instruction that focuses on meaning assumes that exposure to rich and meaningful use of the second language can lead to incidental acquisition of the L2 system. Instruction that expects learners to focus on forms in isolation (FonFS) assumes that the target L2 forms can, and need to, be taught one by one in a sequence externally orchestrated according to linguistic complexity. Finally, instruction that focuses on forms integrated in meaning (FonF) capitalizes on brief interventions that, in meaningful communication, point out linguistic properties (mostly grammatical structures) that appear to cause trouble for second-language learners. In doing this, teachers must take into account the learner's level of second-language acquisition, so as not to teach forms that are too difficult, and the usefulness of the forms in future communication. Long (1997) contends that FonF instruction is likely to be more effective because it is consistent with what L2 researchers know about how second languages are acquired.

According to Norris and Ortega (2000), common to all L2 type-of-instruction studies is the investigation of different treatments that may be categorized according to the manner in which instructional delivery focuses learner attention on target L2 features. Accordingly, two general research questions were identified. First, how effective is L2 instruction overall and relative to simple exposure or meaning-driven communication? Second, what is the relative effectiveness of different types and categories of L2 instruction? The authors also addressed three additional questions: Does type of outcome measure influence observed

[3] Their review was a systematic search of the research literature between 1980 and 1998 including in their review all studies that (1) employed a quasi-experimental or experimental design, (2) used an adequately defined and reported treatment that targeted specific forms and functions (either morphological, syntactic, or pragmatic), and (3) used dependent variable(s) that were measures of language behavior related to the specific structures targeted by the independent variables.

instructional effectiveness? Does length of instruction influence observed effectiveness? Does instructional effect last beyond immediate post-experimental observations?

The authors found that L2 instruction results in large target-oriented gains,[4] that explicit types of instruction are more effective than implicit types, and that focus on forms in isolation (FonFS) and focus on forms in the context of meaning (FonF) result in equivalent and large effects. Further findings suggest that the effectiveness of L2 instruction is durable and that the type of outcome measures used in individual studies likely affects the magnitude of observed instructional effectiveness. Generalizing findings is limited because the L2 type of instruction has yet to engage in rigorous empirical operations and replication of its central research constructs. Changes in research practices are recommended to enhance the future accumulation of knowledge about the effectiveness of L2 instruction.

Finally, the authors note that particular selections and combinations of related instructional features drawn from the models constitute more specific techniques that have begun to be investigated in recent years. Moreover, the authors point out that as the research agenda has developed, it has become more complex. Previously absolute questions about the effectiveness of various types of L2 instruction are being redefined and stipulated according to various moderator variables. These include the internal status of a learner's inter-language, age, language aptitude, and L1 background as they bring about the acquisition of specific L2 features, for instance, simple versus complex forms.

DEVELOPING ENGLISH PROFICIENCY IN THE CONTEXT OF TEACHING ENGLISH LANGUAGE LEARNERS TO READ

Learning to read is a complex task for beginners. They must coordinate many cognitive processes to read accurately and fluently. Readers must be able to apply their alphabetic knowledge to decode unfamiliar words and to remember to read words they have read before. When reading connected text, they must construct sentence meanings out of word sequences, and retain them in memory as they move on to new sentences. At the same time, they must monitor their word recognition to make sure that the words activated in their minds fit with the meaning of the context. In addition, they must link new information to what they have already read, as well as to their background knowledge, and use this to anticipate forthcoming information.

—National Reading Panel (2000)

[4] The average effect size observed across all instructional treatments indicates that treatment groups differed from control/comparison/baseline groups by approximately one standard deviation on immediate post-experimental outcome measures. This average overall effect size suggests that focused instructional treatments of whatever sort far surpass non- or minimally-focused exposure to the L2. However, a high overall standard deviation (0.87) indicates that treatment effectiveness is widely dispersed around the mean.

In the sections that follow, the review examines key components of literacy, phonemic awareness, word reading, fluency, vocabulary, and comprehension. In examining each area, it addresses what we know about developing English literacy for English-speakers, the issues that arise for ELLs as they read and write in English because of their developing oral English proficiency, and effective instructional strategies to help ELLs master reading and writing in English.[5]

Phonemic Awareness Instruction

What L1 Research Tells Us

Phonemic awareness (PA) is the ability to focus on and manipulate phonemes, the smallest units of spoken language (phonological awareness is the broader category). PA measured at the beginning of kindergarten is one of the two best predictors of how well children are likely to learn to read. Discovering phonemic units is helped greatly by explicit instruction in how the sound system works and thus the structured PA training taught was effective and students retained their skills after the treatment ended. Strong gains in PA transferred to reading and spelling. The following training criteria emerge as effective from a review of the research:

- Focusing PA training on one or two skills was significantly more effective for teaching phonemic awareness than focusing on multiple skills. In particular, two types of PA—blending and segmenting—benefitted reading much more than did an approach that included other skills, such as first-sound comparisons and phoneme deletion;
- When effects of letter use were examined after readers with disabilities were removed from the database, a significant advantage of letter use was found. Thus, PA training makes a stronger contribution to reading and spelling when it includes teaching children to manipulate phonemes with letters, rather than being limited to speech;
- The most effective way to teach PA is in small groups possibly because of enhanced attention, social motivation to achieve, or observational learning opportunities;
- Effect sizes were larger for two mid-length time periods, 5 to 9.3 hours and 10 to 18 hours. Thus, PA training does not need to be lengthy to exert its strongest effect on reading and spelling.

The final decision about which PA skills to teach should take into account the task difficulty, whether students can already perform the manipulations being taught as determined by the pretests, and the expected use of the PA skill. The following tasks are ordered from easy to difficult based on findings of Schatschneider, Francis, Foorman,

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[5] It should be noted that the review draws extensively on the findings of the National Reading Panel in describing what is known about effective literacy instruction for English-speaking students.

Fletcher, and Mehta (1999): first-sound comparison, identifying the names of pictures beginning with the same sound, blending onset-rime units into real words, blending phonemes into real words, deleting a phoneme and saying the word that remains, segmenting words into phonemes, and blending phonemes into nonwords.

It is important to note that when PA is taught with letters, it qualifies as phonics instruction. When it involves teaching students to pronounce the sounds associated with letters and to blend the sounds to form words, it qualifies as synthetic phonics. When it involves teaching students to segment words into phonemes and to select letters for those phonemes, it is the equivalent of teaching students to spell phonetically.

Issues for English Language Learners

Typical English-speaking children have considerable knowledge available for analyzing language when they enter school: several thousand words in their vocabularies, some exposure to rhymes and alliterations, practice in writing their own names and "reading" environmental print, and other sources of information about language. Leaving aside the difficulties of limited oral proficiency in English, however, problems can occur for children who are not English speakers and have not broadened their listening skills to include English sounds. For example, for Spanish-speaking children from Latin America, there are eight English phonemes absent from Latin American Spanish (for example, the English short vowels as in "pit," "pet," "puf" have no counterparts in Spanish). Also, between 46 and 53 consonant clusters in English appear in the initial position of the word and more than 36 consonant clusters appear in the final position, while Spanish is limited to 12 consonant clusters that can occur both in the initial word and syllable position. In addition, Spanish has no final consonant clusters such as "ld" and "sk" (Kramer & Rubison, 1983).

Promising Practice

Two studies indicate that children can be taught to hear sounds that do not appear in their first language. Kramer and Rubison (1983) investigated the effectiveness of a four-week auditory discrimination training program in English for Spanish-speaking children with regard to four contrasting pairs of sounds taught and fourteen other sound pairs not taught.[6] The subjects were 15 Mexican American students in first, second, and third grades from two urban public schools in Kansas. Subjects, stratified by school and grade level, were assigned randomly to control and experimental groups. All had reading levels above the primer level but not above the first grade level. The program focused on 36 word pairs that contrasted

[6] Minimal pairs included: v-b (I and F); ch, sh (I and F); l-ld (F); s-st (F); n-nd (F); v-vd (F); m-n (I, F), sp-s (F); z-s (I); p-b (F); sm-m (I) v-f (F); n-ng (F); j-ch (I); s-st (I). I refers to the initial position in a word and F refers to the final position in a word.

English sounds potentially difficult for Spanish-speaking children to distinguish. From these, testers selected 18 pairs of contrasting sounds based on previous studies. During testing, subjects were asked to identify whether minimally contrasting word pairs sounded the same or different, e.g., sheet-cheat. In addition, the test included 16 control items (same) and 8 pairs of words that were easy to distinguish. Training lasted 30 minutes a day, 4 days a week, for 4 weeks. One sound pair was taught each week, and others reviewed. The teacher showed pictures of characters with particular sounds in their names (i.e., Chile Choo for ch). Once a sound had been introduced, it was reviewed often through oral and written exercises and games.

The results of a 60-item auditory discrimination posttest, analyzed by one-way analysis of covariance, showed that experimental subjects performed significantly better than controls on total score, sounds taught, and sounds not taught. The findings demonstrate a positive effect of a brief ear-training program for the development of overall auditory discrimination. Note that there was a transfer effect to sounds not taught. It was sufficient to train children on the most difficult sounds for children to distinguish, rather than on all the sounds.

In recent work in England, Stuart (1999) sought to extend to English language learners previous research findings that demonstrate phoneme awareness training, particularly when combined with letter-sound teaching, results in improved reading and spelling. His research also sought to provide training for whole classes, rather than small groups, use a commercially available program, and give minimal training to teachers. The study sample consisted of two groups of 5-year-olds; 96 were ELLs enrolled in either the experimental or control program.[7] The vast majority of the ELLs were Sylheti speakers.[8] The experimental group used the Jolly Phonics program; it provided early, structured, focused and rapid teaching of phoneme segmentation and blending skills and grapheme-phoneme correspondence. The program emphasizes meaningful stories, pictures, and actions that reinforce recognition and recall of letter-sound relationships and precise articulation of phonemes. An interesting feature is that children learn gestures to help them remember the letter-sound associations. Children learned to look at the letter, recall the object, say its name, and isolate the first consonant. The control group was instructed with a holistic approach based on Holdaway's (1979) use of big books.

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[7] Note that pretest results indicated that on some of the critical experimental measures, the JP group was significantly ahead of the BB group. Thus it was necessary to control statistically for pretest differences. Because many of the measures departed wildly from normal distributions, the authors could not use pretest scores to control for initial group differences. Thus, the authors used gain scores to examine differences between pre- and posttests. With regard to the control measures, overall, good control was achieved on oral language at pretest, on auditory perception and on the untreated phonological measure of rhyme awareness, or alphabet knowledge at pretest.

[8] Sylheti is the language of the Surma valley region, consistingof most of the Sylhet Division in Bangladesh and Cachar District in Assam, and is spoken by over 9 million people. It is related to the rural dialects of eastern Bengal, but with a high proportion of words derived from Persian and Arabic, and has a distinct grammar.

Schools could choose one approach or another and statistics indicated that there were no significant differences between schools on social, ethnic, and linguistic composition or on key Stage 1 SAT performance. Teachers received some training advice about implementing the interventions. Teachers using the big books approach were told to concentrate on word-level work, emphasizing words and letters. Researchers met with teachers using the Jolly Phonics program and discussed the content. Teachers received copies of a training video and had the opportunity to attend a training seminar. Teachers were asked to spend one hour per day for 12 weeks on reading and writing, either using the big books or Jolly Phonics. Researchers ensured that children were receiving the intervention for an hour a day for the allotted 12 weeks.

Before the 12-week intervention, children were pre-tested on measures of spoken and written language, phonological awareness, and alphabet knowledge. They were post-tested on all measures immediately after the intervention and one year later. Control measures that were used included oral language, auditory perception, alphabet knowledge, rhyme awareness, and mathematical knowledge. Experimental measures included phoneme awareness, phonics knowledge, reading and writing standards, and delayed post-tests.

Results indicated strong, specific, significant, and positive effects of the Jolly Phonics intervention; the experimental program increased phoneme awareness, phonics knowledge, and children's ability to apply these in reading and writing. In the year after the intervention, both groups made comparable progress in most areas. At the end of the year, however, the experimental group was still significantly ahead in phoneme awareness and phonics knowledge, and on standardized and experimental tests of reading and writing. Thus, early concentration on phoneme awareness and phonics can radically improve reading and spelling standards in inner-city second-language learners.

Several other effective programs for English-only children that might be tested with English learners include the ADD program by Lindamood and Lindamood (1975) that also teaches children to identify and monitor articulatory gestures associated with phonemes, and Sound Foundations (Byrne & Fielding-Barnsley, 1993), which teaches phoneme identity through pictures.

Word Reading

What L1 Research Tells Us

Research on word reading has distinguished several ways to read words (Ehri, 1991, 1994). Decoding words never before read involves transforming graphemes into phonemes and then blending the phonemes to form words with recognizable meanings. Letters might be individual letters, or digraphs such as TH, SH, or OI, or phonograms such as ER, IGHT, OW, or spellings of common rimes (the vowel and consonants that follow a beginning consonant

in a word) such as -AP, -OT, -ICK. A second way to read words is by analogy to new words. A common basis for analogizing is recognizing that the rime segment of an unfamiliar word is identical to that of a familiar word, and then blending the known rime with the beginning sound. For example, children who know "fork" can easily read "pork" or "york" the first time if they know the sound of the initial consonant. Reading by analogy is thought to require the PA skills of onset-rime segmentation and blending. Another way to read is from memory, sometimes called sight word reading. For individual words to be represented in memory, beginning readers are thought to form connections between graphemes and phonemes in the word. These connections bond spellings to their pronunciations in memory (Ehri, 1992). For example, the word "women" does not follow phonetic rules, but the consonants, and in some cases, context provide sufficient clues to enable a reader to associate the string of letters with the familiar word (if the child has the word "women" in her or his oral vocabulary). A fourth way is prediction in which readers use context clues, their linguistic and background knowledge, and memory for the text to anticipate or guess the identities of unknown words. Text reading is easiest when readers have learned to read most of the words by sight because little attention or effort is required to process the words and this enables readers to attend to meaning.

Programs that teach children to read words differ on many dimensions. The National Reading Panel examined only experiments that compared the reading performance of children who had received systematic phonics instruction to the performance of children given nonsystematic phonics or no phonics instruction. Findings substantiated the impact of systematic phonics instruction on learning to read. More specifically, children who were taught phonics systematically benefitted significantly more than beginners who did not receive phonics instruction in their abilities to decode regularly spelled words and non-words, to remember how to read irregularly spelled words, and to invent phonetically plausible spellings. In addition, phonics instruction contributed substantially to children's growth in reading comprehension and somewhat less to their oral reading skill.[9]

Three types of phonics programs were compared in the analysis: 1) synthetic phonics programs that emphasized teaching students to convert letters into sounds and then blend the sounds to form recognizable words; 2) larger-unit phonics programs that emphasized the analysis and blending of larger subunits of words (i.e., onsets, rimes, phonograms, spelling patterns) as well as phonemes; and 3) miscellaneous phonics programs that taught phonics systematically but in ways other than the synthetic or larger-unit methods. Also in this category were those unclear about the nature of their approach. Although the systematic phonics programs are all significantly more effective than non-phonics programs,

[9] Instructional issues not resolved by the research include: 1) what content to cover, it is clear that major letter-sound correspondences need to be taught, including short and long vowels and digraphs, but there are other irregularities as well; 2) methods to motivate children; 3) value of decodable text; 4) whether to teach many letter-sound combinations before using them or introduce a few and then provide reading and writing activities that help the children apply the correspondences.

they do not appear to differ significantly in their effectiveness, although more evidence is needed to verify the reliability of the effect sizes for each program.

Issues for English Language Learners

A difficulty for students who already read in their first language is that some graphemes represent different sounds in the second language than they do in the first. For example, the /b/ in English can be pronounced as either a /v/ or /b/ in Spanish, and the "i" in English as in the word "it" is pronounced in Spanish like the vowel in "eat." Children whose first language has a different orthography than English (e.g., Russian or Arabic speakers) face an additional challenge (Grabe, 1991). Direction-of-reading, punctuation, and spacing differences between languages do not appear to cause difficulty (Rayner & Pollatsek, 1989, cited in Grabe, 1991, p. 387).

With prediction, readers use context clues, their linguistic and background knowledge, and memory for the text to identify unknown words. Thus, English speakers making initial attempts at reading understand, if they are successful, the products of their efforts. They read words they know and sentences they understand. They can use context and probabilities effectively, and they can correct themselves efficiently. Non-English speakers do not have this basis for knowing if they are reading correctly because the crucial meaning-making process is short-circuited by a lack of language knowledge. For example, building on the earlier example, if a child does not know the word "women," even the best decoding skills will not provide the right word. Giving children initial reading instruction in a language that they do not yet speak, without the requisite oral language support, can undermine their chances to use meaning to support decoding (Bialystock, 1997).

Promising Practice

Recent work by Stuart (1999), cited above, demonstrates that phoneme awareness training, particularly when combined with letter-sound teaching, results in improved reading and spelling. Success for All (Slavin & Madden, 1999, 2001) has also been found to be effective in improving the word reading of English language learners. Francis Scott Key, an elementary school serving low-income students in Philadelphia, evaluated Success for All. Sixty-two percent of the students were from Asian backgrounds and the remainder were African American and White. A similar Philadelphia school was the comparison site. Results indicated that Asian children in the Success for All school at all three grade levels performed far better than control students. On average, Success for All Asian students exceeded control students by 2.9 years in fourth grade and 2.8 years in fifth grade in reading grade equivalents. Moreover, these Success for All students were reading about a full year above grade level in both fourth and fifth grades, whereas similar control students averaged 1.9 years below

grade level in fourth grade and 1.8 years below grade level in fifth grade. Outcomes for non-Asian students were also very positive in fourth and fifth grades. Experimental-control differences were statistically significant on every measure at every grade level. Other evaluations (Livingston & Flaherty, 1997; Ross, Smith, & Nunnery, 1998) also found positive results for students in the ESL adaptation of Success for All when compared with control students.

The Success for All reading program is 90 minutes a day. During this time students are grouped into classes of about 15 students all at the same level. The reading program emphasizes development of basic language skills and sound and letter recognition skills in kindergarten, and uses an approach based on sound blending and phonics starting in first grade. The K-1 reading program uses a series of "shared stories," mini-books that gradually introduce syllables, letter sounds, and sound-blending strategies in stories that use a very high proportion of decodable words. Kinder Roots and Reading Roots, the program for kindergartners and first graders, respectively, also emphasizes oral reading to partners as well as to the teacher, instruction in story structures and specific comprehension skills, and integration of reading and writing. The schools in the study also provided English as a second language (ESL) instruction. After the reading period, ESL teachers tutored individual students experiencing difficulties in reading one-to-one or in small groups. Tutors offered assistance tied to success in the reading curriculum.

Fluency

What L1 Research Tells Us

Fluency is the ability to read text quickly, accurately, and with proper expression. Recent conceptualizations of fluency extend beyond word recognition and may embrace comprehension processes as well (Thurlow & van den Broek, 1997). Fluency is freedom from word identification problems, but fluency may also include the ability to group words appropriately into meaningful grammatical units for interpretation. Fluency requires the rapid use of punctuation, and the determination of where to place emphasis or where to pause to make sense of a text. Readers must carry out these aspects of interpretation rapidly and usually without conscious attention. Thus, fluency affects reading comprehension by freeing cognitive resources for interpretation, but it is also implicated in the process of comprehension, as it necessarily includes preliminary interpretative steps.

Efficient word recognition is associated with improved comprehension. To understand this, word recognition must be divided into its components such as accuracy and automaticity of word recognition. Accuracy of word recognition is not sufficient because non-fluent readers do not have enough resources available for comprehension while they are reading. It is important to keep in mind that even highly skilled readers may have trouble

with some words. However, more skilled readers fixate on function words less than unskilled readers, make shorter fixations, longer saccades (the jump of the eye from one fixation to another), and fewer regressions.[10]

Research indicates that procedures that emphasize repeated oral reading practice or guided repeated oral reading practice are effective in building fluency for children reading in their first language. These procedures enable a student to read and reread a text several times, increase the amount of time for practice through one-to-one instruction, tutors, audiotapes, peer guidance, or other means, and some have carefully designed feedback routines. Procedures that have students reading passages orally multiple times while receiving guidance or feedback from peers, parents, or teachers have a clear impact on the reading ability of non-impaired readers at least through fourth grade, as well as on students with various kinds of reading problems throughout high school. The biggest impact is on reading speed, and oral accuracy, and in some cases on comprehension.

Another widely used approach to developing fluent readers entails encouraging children to read a lot. One such approach is sustained silent reading in which children read approximately 20 minutes a day silently without monitoring. In most cases, students select their own materials and there is no discussion or written assignment tied to the reading. There is overwhelming correlational evidence that the best readers read the most and poor readers read the least (Donahue, Voelkl, Campbell, & Mazzeo, 1999). Because the data are correlational, however, they could also be interpreted as the best readers just read more. It is difficult to interpret the studies in which children are encouraged to read more (e.g., reading incentive programs) as evidence that this technique improves fluency, in part because the studies are correlational, and also because most of them considered the impact on overall reading, not fluency.

Issues for English Language Learners

With regard to efficiency, ELLs may have less opportunity to read aloud with feedback than their English-proficient peers. Some of this practice occurs at home, but parents of ELLs may not be literate in English. Moreover, reading fluency is bolstered if children understand the text they are reading. ELLs are less likely to comprehend English text because of their limited English proficiency.

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[10] Because fluency is not generally assessed and is an important indicator of reading ability, it is worth mentioning methods used to assess fluency. They include: miscue analysis, pausing indices, running records, and reading speed calculations. See Wagner, Torgesen, and Rashotte (1999) for a standardized measure of word reading efficiency that tests the speeded reading of single words.

Promising Practice

Assisted reading may hold promise for increasing ELLs' reading rates, word accuracy and comprehension. Van Wagenen, Williams, and McLaughlin (1994) examined the effectiveness of an assisted reading program for three, low SES, 12-year-old Spanish-speaking students learning English. The intervention consisted of baseline and assisted reading. During baseline reading, the teacher introduced and discussed new vocabulary with the students before they began to read, tape recorded each student reading the new passage for four minutes, and asked students to complete written work based on the story. Written activities focused on vocabulary meaning and understanding the significance of each word. During assisted reading, each student read silently while listening to a teacher's recording of the passage, read the passage aloud, read the passage three times silently with the tape, and read the passage a second time aloud. Analysis indicated that the use of assisted reading techniques improved reading rate, reduced student error, and increased comprehension. During the assisted reading, students increased the number of words they read correctly per minute, decreased error rates (measured by counting numbers of insertions, omissions, mispronunciations, reversals, and substitutions), and improved comprehension (percentage correct on the written activities following each story and from criterion-referenced tests for each unit). Clearly, more work is needed in this area.

Vocabulary

What L1 Research Tells Us

A major determinant of reading comprehension is vocabulary. Cunningham and Stanovich (1997) reported that vocabulary assessed in first grade predicted more than 30% of reading comprehension variance in 11th grade. In the development of vocabulary, Anglin (1993) provides a particularly careful estimate, making clear distinctions between root words (which must be learned), derived words (semantic variations of root words), inflections (syntactic variations), and compounds. Derived, inflected, and compound words may be understood if the root word is known. Anglin reported growth in root word vocabulary from an average of about 3,100 root words in first grade to about 7,500 root words in fifth. In addition, a comparison of quartile groups (with regard to vocabulary knowledge) in different grades indicates that a large difference in root word vocabulary occurred by second grade, with the mean for the lowest quartile being 4,100 fewer words than the mean for the highest quartile.

Biemiller and Slonim (2001) have found evidence for a common sequence of vocabulary acquisition for English-only students. They studied root word vocabulary in two normative samples—an English-speaking, wide socioeconomic range sample and an advantaged sample. The authors estimated that in second grade, the mean normative vocabulary was 5,200 root words, increasing to approximately 8,400 by fifth grade. During

grades 3-5, the lowest quartile of students added about 3 root words a day, whereas the highest quartile added about 2.3 words a day. By fifth grade, however, children in the lowest quartile averaged only fourth grade level because they had such a small vocabulary in second grade.

Findings from the National Reading Panel (2000) indicate that various methods improve students' vocabulary.[11] First, computer use bolsters vocabulary when compared with traditional methods or when computers are used as an ancillary aid. In one study, researchers (Davidson, Elcock, & Noyes, 1996) used a computer that gave speech prompts when the learner requested them; 5- to 7-year old students improved on three measures of vocabulary with these prompts.

Second, a series of studies underscores that vocabulary learning results in comprehension gains and improvement on semantic tasks. For example, McKeown, Beck, Omanson, and Perfetti (1983) found that vocabulary instruction had a strong relation to text comprehension in fourth grade students.

Third, the keyword method may significantly improve recall and be more helpful than other approaches. In this method, students learn the meanings of new words by using a keyword, or "word clue," that usually sounds similar to a salient part of the word they don't know. Sometimes, students look at pictures that help them figure out a sound or word meaning; they may even be asked to generate their own images linking the words (National Reading Panel, 2000).

Fourth, vocabulary can be acquired through incidental exposure. One example of this is storybook reading. One particular study (Schwanenflugel, Stahl, & McFall, 1997) examined the characteristics of words and texts that were most amenable to vocabulary acquisition and found that verbs, adverbs, and adjectives are learned better than nouns, and concrete words are learned better than abstract ones. Research has also found that student-initiated talk or active participation is important during storybook reading (Dickinson & Smith, 1994; Senechal, 1997). One interesting study (Drevno, Kimball, Possi, Heward, Gardner, & Barbetta, 1994) indicated that when teachers modeled a correct response to a student's error *and* asked students to repeated the correct definition, the lesson was more effective than when students were not required to repeat the right answer.

Fifth, according to research (Senechal, 1997; Leung, 1992; Daniels, 1994) high frequency and multiple, repeated exposures are important as well as is extended and rich instruction of vocabulary (applying words to multiple contexts).

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[11] Findings from the National Reading Panel (2000) indicate that ability levels and age differences can significantly affect learning gains from vocabulary instruction methods. Thus it is important to consider students' ages and abilities in selecting instructional approaches and materials to bolster vocabulary.

Sixth, a few studies (Brett, Rothlein, & Hurley, 1996; Wixson, 1986; Carney, Anderson, Blackburn, & Blessing, 1984) suggest that pre-instruction of vocabulary facilitates vocabulary acquisition and comprehension.

Seventh, restructuring materials or procedures (e.g., substituting easy for hard words in a passage, teaching what components make a good definition, selecting relevant words for vocabulary learning, group-assisted reading in dyads over an unassisted group) bolsters comprehension (Scott & Nagy, 1997).

Finally, some studies found that a mix of contextual and definitional approaches work better than one or the other (Stahl, 1983). However, one study found specific gains from a single approach semantic mapping over context-rich or target-word treatment (Margosein, Pascarella, & Pflaum, 1982) and several studies found that direct instruction in learning word meanings was helpful (Tomesen & Aarnoutse, 1998; White, Graves, & Slater, 1990).

According to the National Reading Panel (2000), implications for instruction include:

- a need for direct instruction of vocabulary items that are part of a text to be read;
- as many connections as possible to a specific word;
- the importance of multiple exposures;
- vocabulary words to be learned should be useful in many contexts, so it might be best to focus on words important to content area learning;
- vocabulary tasks should be restructured to ensure that the learner is fully aware of the task and how to complete it;
- revising the task such as creating opportunities for group learning or revising learning materials can also lead to increased vocabulary learning;
- vocabulary learning should entail active engagement in learning tasks;
- computer technology can be a powerful method of increasing vocabulary;
- vocabulary can be acquired through incidental learning;
- how vocabulary is assessed and evaluated can have differential effects on instruction and thus the panel suggests that dependence on a single measure is not optimal; and
- dependence on a single vocabulary method will not result in optimal learning.

Issues for English Language Learners

Skilled readers can tolerate a small proportion of unknown words in a text without disruption of comprehension and can even infer the meanings of those words from sufficiently rich contexts. If the proportion of unknown words is too high, however, comprehension is disrupted. Students reading in their first language have already learned 5,000 to 7,000 words before they begin formal reading instruction (Biemiller & Slonin, 2001). They also have a good intuitive sense of the grammar of the language. Second-language learners, however, typically do have not large vocabularies in the second language, nor do they have a complete sense of its grammar (Singer, 1981, cited in Grabe, 1991).

Umbrel, Pearson, Fernandez, and Oller (1992) tested the receptive vocabulary of Hispanic children in Miami in both English and Spanish with the PPVT and the TVIP. The 105 bilingual first graders, of middle to high socioeconomic status, were divided according to the language spoken in their homes (English and Spanish or Spanish only). Both groups performed near the mean of 100 in Spanish, but the English and Spanish group scored more than one standard deviation higher in English than the Spanish only group. Both groups, however, were significantly below the mean of the norming sample in English, even when the socioeconomic status of the English learners was higher than that of the norming sample.

Garcia's (1991) comparison of Latino and Anglo students' reading test performance in English revealed that the Latino students knew significantly less of the English vocabulary in the test passages than did the native-English speaking students. Interviews with a sub-sample of the students indicated that unfamiliar English vocabulary was the major linguistic factor adversely affecting the Latino students' reading test performance. Jiménez, Garcia, and Pearson's (1995, 1996) think-aloud study of reading by bilingual, Latino middle-school students revealed similarities and differences in strategy use between 3 monolingual Anglo readers and 11 bilingual readers, depending on the bilingual students' reading levels. However, findings similar to those of Garcia (1991) revealed that both the successful and less-successful bilingual readers encountered more unknown English vocabulary than the successful monolingual readers and had less knowledge about the topics being read.

Promising Practice

Although some vocabulary is learned during reading (Cobb, Spada, & Zahar, 2001), it is not the most effective method of vocabulary development. Raptis (1997) surveys both first language and second language literature to show that, while theoretically sound, the notion that reading vocabulary may be learned best by reading is not supported empirically. Laufer (2001) also examines the basic assumptions underlying the hypothesis that most vocabulary in a second language is acquired incidentally from reading. She maintains there is no empirical evidence that the assumptions underlying incidental learning—noticing

assumption, guessing ability assumption, guessing-retention assumption, and cumulative gain assumption—can be taken for granted in the context of second, particularly instructed second language learning.[12]

In one study, Laufer and Hulstijn (2001) attempt to identify the components of incidental tasks that are conducive to the kind of elaborate processing crucial to learning. The authors attempt to operationalize the general labels of "attention" and "elaboration" into concrete, task-specific constructs. They make an assumption that retention of words when processed incidentally is conditional upon the three factors in a task: need, search, and evaluation (which combine into "involvement"). Need is concerned with the need to achieve, a drive to comply with the task requirements. Search is the attempt to find the meaning of an unknown L2 word or to find the L2 word form expressing a concept. Evaluation entails a comparison of a given word with other words, a specific meaning of a word with its other meanings. It implies some kind of selective decision based on a criterion of semantic and formal appropriateness. The authors theorize that involvement load is defined as the presence or absence of the involvement factors need, search, and evaluation. Other factors being equal, words processed with higher involvement load will be retained better than words processed with less involvement.

One strand of intervention work focuses on incidental vocabulary acquisition (as contrasted with intentional learning which will be described subsequently). Incidental vocabulary acquisition is defined as the learning of vocabulary as a by-product of another activity (Laufer, 2001).[13] Incidental learning does not mean that the learners do not attend to the words during the task. They may attend to the words (for example, using them in sentences or looking them up in a dictionary), but do not deliberately try to memorize the words. Five experiments (Laufer, 2001) indicate that tasks requiring a learner to use the target words lead to better acquisition of these words, than a reading task in which the words are encountered as input. Thus, students are more likely to remember a word they have used in an original sentence, or incorporated into a composition, than a word they have seen in a text, even if they have looked it up in a dictionary. She concludes that in foreign language instruction, reading is unlikely to be the best source.

Neuman and Koskinen (1992) studied the effects of incidental word learning from captioned television. Their study explored whether comprehensible input in the form of captioned television might affect bilingual students' acquisition of vocabulary and conceptual

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[12] The noticing assumption is "on encountering an unfamiliar word, the reader notices it as a word s/he does not know." The guessing ability assumption is "on encountering andnoticing an unfamiliar word, the learner decides to infer its meaning from context." The guessing-retention link assumption is "the meaning of a word has to be retained in long term memory." The cumulative gain assumption is "if a word is not remembered after the learner's first exposure to it, additional encounters are needed in order to increase the probability of retaining it."

[13] Intentional vocabulary acquisition, on the other hand, refers to an activity aimed at committing lexical information to memory

knowledge. The authors investigated differences among four conditions: captioned television, traditional television viewing without captions, reading along and listening to text, and textbook only. A second purpose of the study was to identify the combination of word-related and video-related variables that contributed to any vocabulary gains found among the captioning group. A third purpose was to examine the relationship between students' linguistic proficiency in English and their learning of vocabulary through comprehensible input.

One hundred twenty-nine low-SES, bilingual seventh and eighth graders from 17 middle school classrooms participated. The sample included Southeast Asian and Hispanic students who were at least two to three years below grade level. On the IDEA Oral English Proficiency Test, 77 students were at the mastery level, 23 were fluent, 26 were limited, and 3 were non-English speakers. All students attended bilingual classes in their first language in science; these classes were heterogeneously grouped. For the intervention, the researchers used *3-2-1 Contact,* a children's science TV program produced by public television. Each science unit was taught over a three-week period. Intact classes were randomly assigned to one of the four conditions described above. In the reading-along-and-listening-to-text group, students were encouraged to read the stories silently first. Then with the help of a teacher, a volunteer read the stories aloud, while the others listened and followed along.

Results indicated that for all three science units, students in the captioned-TV group scored significantly higher on the word recognition tasks than those in the reading text group. The captioned-TV group significantly outperformed the TV-only group on Unit 2 only. Similar trends emerged for the sentence anomaly unit tests. Scores on knowledge of all target words showed that the group watching captioned TV differed significantly from all other groups. On idea units recalled, there were significant differences between the TV and reading text group and significant differences between two video conditions for Unit 1. The use of target words was closely associated with the number of idea units. The captioned-TV group used target words more frequently in their writing than the reading text group.

With regard to word and picture factors, once students' prior knowledge of target words was removed, only context remained a significant factor. The words that were most readily learned in the captioned segments were those for which both the word and the video-context were strongly supportive. As the level of contextual support decreased, so did the percentage of subjects answering correctly on the word meaning posttest. Higher levels of English proficiency were associated with more learning of vocabulary. In discussing the findings, the authors note the importance of visual and printed contexts that provided explicit, and thus redundant, information for incidental word learning and increased vocabulary knowledge even without captioned words. They also note that the more linguistic competence the students had the more they acquired, supporting the need for direct teacher intervention for students who are below a threshold of linguistic competence in their new language.

McLaughlin and colleagues (2001) developed, implemented, and assessed an intervention to enrich the vocabulary and bolster the reading comprehension of Spanish-speaking fourth- and fifth-grade English-language learners and their English-only peers. The study was carried out in schools in California, Virginia, and Massachusetts. The first year of the study, participants were 223 students in 15 fourth-grade classrooms. During the second year, the authors followed the children into fifth grade as well as added some new students in the same fifth-grade classrooms. Thus, in the second year there were 290 students in the study. Each year, approximately half of the students were English-only speakers and half were Spanish-speaking English-language learners. Half the students each year were in intervention classrooms, participating in the vocabulary enrichment activities; half were in control classrooms with regular classroom vocabulary development activities not related to the intervention.

The first year of the intervention, implemented in fourth-grade classrooms, consisted of 95 lessons to build vocabulary breadth and depth and teach students strategies for acquiring word knowledge. The second year, the intervention was implemented in fifth-grade classrooms, and consisted of 75 lessons. Each lesson lasted approximately 40 minutes. Researchers trained the students' classroom teachers to deliver the instruction. Children in classrooms where the curriculum was implemented, and in comparison classrooms at the same school and grade level, were tested in the fall and spring. The series of tests reflected the skills the curriculum taught, including the ability to form deeper representations of word knowledge, to understand the multiple meanings of words, to break words into morphological components, to infer meaning from context, and to read for comprehension.

A multivariate analysis was performed on the dependent measures for which scores were available in both the fall and spring of each year to test the effects of predictor variables—school in which the program was implemented, language status (English-only or English language learner), and treatment. The major finding is that a well-designed, challenging curriculum can improve children's performance in three areas: knowledge of the words taught, knowledge of word analysis, and comprehension of texts including challenging words. Furthermore, such a curriculum can be effective for children who speak English as a second language, though it does not serve to enhance these children's scores more than the scores of English-only children. Finally, two years of exposure to the vocabulary intervention had a greater effect on outcomes than one year, and the more challenging curriculum of the second year had a larger effect than the curriculum implemented the first year.

Text Comprehension

What L1 Research Tells Us

According to the National Reading Panel (2000, p.4.39), an important development in theories of reading comprehension arose in the 1970s:

> *Reading comprehension was seen not as a passive, receptive process, but came to be seen as intentional thinking during which meaning is constructed through interactions with text and reader.*
>
> —Durkin, 1993

According to this view, "a reader reads a text to understand what is read, to construct memory representations of what is understood, and to put this understanding to use" (National Reading Panel, 2000, p. 4.39). In doing this, the reader draws on background knowledge or knowledge of the world. Most of the research related to the instruction of text comprehension has been guided by this cognitive conceptualization of reading.

The National Reading Panel (2001) identified six individual strategies that appear to be effective and most promising for classroom instruction. They are: 1) comprehension monitoring (teaching readers to be aware of when they do understand, to identify where they do not understand, and to use appropriate fix-up strategies to improve comprehension when it is blocked); 2) cooperative learning (patterns of classroom organization that allow students to work together to achieve their individual goals); 3) graphic and semantic organizers including story maps; 4) question answering; 5) question generation (reader learns to pose and answer questions about what is being read);[14] and 6) summarization (reader learns to identify main or central ideas of a paragraph or paragraphs).

In addition, many of these strategies have been combined effectively, which represents an evolution from the study of individual strategies. Combined strategies are most promising for classroom instruction where readers and teachers interact over text. For example, a teacher might model an approach by showing how she or he would try to understand the text, using two or more combinations of four strategies: question generation, summarization, clarification of word meanings or confusing text, and prediction.

Issues for English Language Learners

Limited word knowledge impedes reading comprehension. A recent study by Hakuta, Butler, and Witt (1999) indicates that significant differences exist in reading comprehension between strong and weak readers, but not between L1 and L2 readers. With vocabulary, however, there were differences between both strong and weak readers and L1 and L2 readers. Thus,

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[14] The strongest scientific evidence was found for the effectiveness of asking readers to generate questions during reading.

vocabulary is an important factor in explaining the poorer performance in reading comprehension of L2 readers. Sixty-one fourth graders in English-only instruction since kindergarten participated. There were 24 L1 and 27 L2 students from either Spanish or Vietnamese backgrounds. They were low or middle SES. Both groups were classified as either strong or weak readers depending on their English reading levels. Even after controlling for some important factors (general reading proficiency, non-verbal IQ, English oral proficiency, SES, amount and type of instruction), there were differences in the ability to infer/define word meaning in context and in the amount of metacognitive reasoning between L1 and L2 readers. There was a difference in receptive vocabulary (measured by the PPVT) between L1 and L2 readers, but not in overall fluency in oral reading, and not in the ability to identify the lexical category of the word. The authors conclude that L2 students need more than rich context to comprehend well; they need to acquire vocabulary and need to know how to use this knowledge.

In a close examination of the data, the authors found that weak readers had more miscues when it came to content rather than function words. For example, weak L2 readers had about 10 word substitutions that changed meaning per passage compared with fewer than two substitutions for strong L2 readers. In addition, the types of strategies that students used were analyzed based on their metacognitive reasoning. In rich contexts, students across groups largely depended on external clues. What seemed to be different qualitatively between strong and weak readers was that the weak readers occasionally paid attention to only the immediate context (or partial context) and relied on their own knowledge associated with limited contextual information. They also sometimes missed some syntactical clues, such as conjunctions and determiners, that would normally help readers with relational information among propositions and ultimately help them make a suitable inference.

With regard to morphology, the authors found that frequencies and types of miscues were different among equally weak readers from different first language backgrounds. Vietnamese-speaking students had more morphology-based errors than Spanish-speaking students and their native English counterparts. Many of the Vietnamese students' morphological errors were related to tense and number, aspects missing in their L1. Despite the quantitative and qualitative differences among L1 backgrounds, however, weak students' comprehension scores showed no difference, suggesting that morphological errors might not carry as much influence on their reading comprehension as was previously thought.

Language structure may also play a role in comprehension. Skilled readers use syntactic information unconsciously to make the reading process more efficient, for example, by fixating on high-information items in the text (Rayner & Pollatsek, 1989). Because high-information items differ from language to language, this practice can lead to inefficient fixation patterns when reading in a second language (Bernhardt, 1987), perhaps disrupting the fluency that facilitates comprehension. Grabe (1991) also finds evidence that language structure plays a role in reading in a second language. Word-order variation, relative clause

formation, complex noun phrases, and other complex structural differences among languages can mislead the ESL reader, especially in the early stages.

In a recent review (Garcia, 1998), several researchers studying transfer note that young bilingual children may need explicit instruction on structural features of the second language that are not characteristic of the first language. For example, in Spanish the adjective often follows the noun it is modifying, whereas in English the adjective precedes the noun. However, whether this type of instruction is actually needed, what should be emphasized, and whether the instruction can accelerate bilingual students' second-language reading development needs to be investigated.

Comprehension is supported by familiarity with macrostructures in text. Knowing that paragraphs have topic sentences on which other sentences are meant to elaborate, being familiar with the basic principles of compare-and-contrast essays, and understanding the macro grammar of a typical story all aid the reader in integrating information across sentences. These structures are culturally determined, and knowing them is typically the product of a great deal of implicit learning, though direct instruction in these matters is provided in some classrooms. The importance of these macro-structural principles in promoting or impeding reading comprehension is clear to anyone who has compared a novel by James Michener with one by Isabel Allende or Kenzaburo Oe. The notions of plot and time sequence, of how much orientation is needed, and of how much interpretation should be supplied vary widely across these three writers, who are all relatively mainstream within their own cultural-linguistic traditions (August & Hakuta, 1997).

In general, passages organized in a familiar structure are easier to comprehend and recall for second-language readers (see Fitzgerald, 1995, for a review) than those exemplifying a novel rhetorical structure. There are clear first-language effects on the types of structures second-language readers find easy, presumably related to preferred organization in the first language (Carrell, 1984; Hinds, 1983).

However, studies that have manipulated familiarity of both content and structure find that unfamiliar content is more disruptive to comprehension than unfamiliar structure for second language learners (Carrell, 1984). Researchers (Garcia, 1991; Jiménez et al., 1995, 1996) have documented that bilingual children generally know less about topics in second-language texts. Garcia reports that even when U.S. Spanish-speaking Latino and monolingual Anglo (non-Latino White) fifth and sixth graders had been in the same English-speaking classrooms for two years, they differed significantly in their background knowledge for standardized reading test passages. Latino students knew less about specific topics. When differences in prior knowledge were controlled, the two groups did not differ significantly in reading test performance. Research has also found that comprehension is enhanced in both young and adult readers when what they read has culturally familiar content (e.g., see Rigg, 1986; Steffenson & Anderson, 1979).

Promising Practice

Interventions to bolster reading comprehension can be grouped as follows: scaffolding instruction through discourse, multiple strategies to foster comprehension, and targeted professional development.

Scaffolding Instruction through Discourse. Saunders and Goldenberg (1999) examined the effects of instructional conversations and literature logs on limited- and fluent-English-proficient students' story comprehension and thematic understanding. Students were in three fifth-grade and two fourth-grade classrooms. They were matched by language proficiency and teachers' rating of reading skills, then randomly assigned within classrooms to one of the four treatment conditions. To control for teacher effects, all four treatment conditions were carried out in each classroom. Before the intervention, all students wrote essays on a theme that was to appear in the story, telling what they thought or knew about the topic. A few days later, teachers reviewed the plan of activities, introduced the story with a prepared three-sentence synopsis, and read aloud the first page of a six-page story. Students then read the remainder of the story independently and took a comprehension pretest.

In the literature log group, teachers asked students to write about personal experiences related to a main character's experience in the story that they had read. In the 45-minute lesson, students read their logs aloud, and then the teacher led a discussion about the similarities and differences among students' experiences and those of the characters in the story. In the instructional conversation lessons, teachers attempted through discussion to clarify the factual content of the story and develop students' understandings of the more sophisticated concepts. Students in the read-and study-only group did not participate in small-group lessons with the teachers. Instead, they worked independently or with the teaching assistant on reading and writing activities related to social studies curriculum.

Students were scored for both interpretive and factual comprehension. Scoring was blind to student identity, treatment condition, and whether the test or essay was a pre- or post-assessment. The authors found that students in the instructional conversation and literature log plus instructional conversation groups scored significantly higher on comprehension than the control group. Moreover, students in all three experimental groups were significantly more likely to demonstrate an understanding of the story themes than the control group. The combined effects of literature logs and conversations on students' essays about a story's theme varied by language proficiency: limited-English proficient students' essays benefitted from the combined effects of the logs and conversations; fully English-proficient students' essays, in contrast, showed no such effect.

Multiple Strategies to Develop Comprehension. Jiménez (1997) investigated the strategic literacy knowledge, abilities, and potential of five low-literacy Latino students in middle school. Three were born in the U.S., attended special education classes, and were reading four years below grade level. Two were not in special education, were being schooled in Spanish, and were recent arrivals to the U.S. The formative experiment consisted

of eight cognitive strategy lessons emphasizing three strategies: resolving the meanings of unknown words, asking questions, and making inferences. Students were also encouraged to make use of their bilingual language abilities, such as searching for cognate vocabulary, translating, transferring information, and reflecting on text in either language. Culturally relevant and familiar text was used for all of the instruction. Based on an analysis of audiotapes to determine students' responses, the author notes that with assistance, the students were able to implement the focal strategies that were emphasized during the experiment.

Five teachers who met the researchers' criteria (Gersten, 1996) as intellectually stimulating, clear, and explicit revealed four productive practices for teaching language to language minority students in grades 3-6 who had transitioned into English-only instruction. Teachers used reading and writing to amplify the concepts of two or three words that were likely to be difficult for ELLs, and were critical for literacy analysis. They used explicit strategies to help students become better readers, taught children to transfer into English what they know in their native language, and encouraged children to speak and write about their lives.

Kucer and Silva (1999) investigated the English literacy development of bilingual Mexican-American students from working class homes who were beginning their formal transition into English literacy in a third-grade whole-language classroom. Through second grade, the students had been in a Spanish literacy program that included instruction in oral English. The Spanish instruction was skills-oriented and children received explicit instruction in phonics. The third-grade program integrated the bilingual students in all subjects except language arts. The whole-language curriculum had four components: theme-based literacy activities, teacher reading, free reading, and free writing. Themes engaged the children in integrated activities related to the topic at hand—getting to know about you, me, and others; getting to know about amphibians; getting to know about things that scare us; and getting to know about plants and seeds. The theme-related activities were designed to help students develop conceptual and generalizable knowledge about the topic and to promote literacy development. Lessons involved art, music, and math, as well as oral and written language. Materials came from the sciences, social sciences, and literature; they were available in English and Spanish and represented a range of discourse types. Embedded in the thematic units were a number of activities, including paired reading, reader response groups, compare/contrast exercises, expert groups, learning logs, writing conferences, modified cloze procedures, and strategy wall charts. Although children could express themselves in English or Spanish, English was generally the language of choice. With regard to emphasis, strategy wall charts, reading and writing conferences, paired reading, and modified cloze procedures, in which students must fill in words deleted from the text, played a significant role in the curriculum.

Literacy growth was measured through pre/post reading miscue[15] and retelling analysis, holistic and analytic writing analysis, and spelling assessments. Pre/post readings, retellings, writings, and spelling assessments were compared and contrasted.

A retelling taxonomy was used to classify each retold clause of the story as a match, substitution, addition, summary, or conflict. Growth in writing was assessed through the development and use of a four-point holistic rubric (1 low-4 high) that focused on organization, development, appropriate vocabulary, and well-formed syntactic structures. Pre-post stories were also analytically evaluated for changes in length, spelling, capitalization, and punctuation.

The transition students demonstrated improved reading abilities and comprehension on miscue and retelling analysis. Writing results were mixed: the students improved in story word length, spelling (both story and word lists[16]), and capitalization. Analytic writing evaluation, however, did not indicate an improvement in the number of sentences produced or in punctuation (periods), nor did a holistic rubric show an improvement in overall writing abilities.

According to the authors, the varied impact of the curriculum on student literacy development underscores the complex nature of learning for bilingual students. The authors found significant growth in certain areas, such as conventional spelling, use of capitals, story word length, and literal comprehension, which were not taught. On the other hand, some skills needed explicit teaching, including holistic writing, story sentence length, and use of periods. Students' uneven performance across tasks calls for what the authors term "differentiated mediation" in which students would continue to be engaged in authentic and meaningful literacy activities as found in this classroom. When children encountered difficulty with a certain dimension of written language, however, focused instructional events would be developed to teach these skills. The children would be taught what to do and given opportunities to practice. Perez (1994), Reyes (1991), and Reyes and Laliberty (1992) also reported gains in the use of conventions and/or idea development and organization only with the use of explicit instruction.

Targeted Professional Development. Waxman, Martinez, Knight, and Padron (1994) examined the effects of implementing three different classroom instructional models on English language learners' cognitive and affective outcomes. The different instructional approaches were implemented by 17 bilingual teachers with their 325 Hispanic ELLs from five elementary schools in a medium-sized metropolitan school district in the south central region of the U.S. The three instructional approaches examined were: English as a second

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[15] Note that miscue analysis was not used to determine accuracy, but to determine whether miscues resulted in sentences that were syntactically acceptable and made sense within the context of the story.

[16] Spelling improvement was also noted; students increased the number of words spelled correctly that were taken from the school's spelling basal. In fact, on average, they made the same gains as children in the school's two other ability-based classrooms;:above average and average monolingual English speakers—that had been taught spelling from the basal from which the words were drawn.

language (ESL) in the Content Areas (Chamot & O'Malley, 1996), Effective Use of Time (EUOT) (Stallings, 1986), and a combination approach including both ESL and EUOT. The fourth group did not receive any training.

ESL in the content areas establishes native language literacy skills to build metalinguistic awareness based on prior knowledge, explains the concept to be learned in the content areas in Spanish with diminishing reliance on the mother tongue or among students with stronger Spanish metalinguistic awareness, graphic mapping, and problem solving in science, math, and reading.

The Effective Use of Time model is based on four steps: pretesting, informing, organizing instruction around guided practice, and posttesting. Pretesting involves the use of a systematic classroom observation instrument that examines teachers' classroom instruction and then develops a personal profile of the strengths and weaknesses of the instruction. After examining their own instruction in small groups, teachers share ideas on how to become more efficient managers of time and how to provide more effective instruction. Organizing instruction through guided practice is conducted by providing teachers with conceptual units of behaviors to change, arranging peer observations, providing coaching as requested, providing useful feedback, and helping teachers integrate ideas into their own teaching. Post-testing involves reassessing teachers' classroom instruction.

Schools were randomly assigned to one of the treatments and the remaining groups served as controls. Students were compared on post-reading and post-language arts achievement, as measured by the Iowa Test of Basic Skills, controlling for students' initial achievement on the same measures. Analysis of covariance results revealed that the EUOT group had significantly higher posttest scores on reading and language arts achievement than all the other groups. The groups receiving combined treatment also had significantly lower post-test scores in reading and language arts than all other groups. Students in the EUOT also had more favorable attitudes than students in other groups. Of note is that students' scores were still lower than those of average-performing students.

Summary

Because of their developing proficiency, English language learners face many issues as they are learning to read. This section of the report has examined these issues in the context of key components of literacy: phonemic awareness, word reading, fluency, vocabulary, and comprehension. With phonological awareness, English language learners encounter problems because of the discrepancy between sounds in their first language and English. With word reading, students who already read in their first language have difficulty in the second because some graphemes represent different sounds in the second language than they do in the first. Moreover, these children cannot depend on word knowledge and context clues in English to scaffold their word reading. With reading efficiency, English language learners may have less opportunity to read aloud with feedback than their English-proficient peers

because family members are not literate in English; moreover, reading fluency is bolstered if children understand the text they are reading. Finally, with regard to reading comprehension, ELLs are less likely to comprehend English text because of their limited English proficiency. Skilled readers can tolerate a small proportion of unknown words without disruption of comprehension, and can even infer the meanings of those words from sufficiently rich contexts. For English language learners, however, the proportion of unknown words is high, disrupting comprehension. Also, English language learners, unlike native English speakers, do not have a good intuitive sense of English grammar or the structure and this also hinders comprehension.

Despite these issues, ELLs benefit from promising practices available to help them become literate in English, the research indicates. In the area of phonological awareness, children can be taught to hear sounds that do not appear in their first language (Kramer, Schell, & Rubison, 1983). Phoneme awareness training, particularly when combined with letter-sound teaching, results in improved reading and spelling (Stuart, 1999). A program that groups children according to word reading level, combines structured work in decoding with language development has also been very effective in improving word reading (Slavin & Madden, 1999, 2001). With regard to fluency, assisted reading may hold promise for increasing ELLs' reading rates, word accuracy and comprehension (Van Wagenen, Williams, & McLaughlin, 1994). In the area of incidental vocabulary learning, Laufer (2001) has found that tasks requiring a learner to use the target words lead to better acquisition of these words than a reading task in which the words are heard or read, but not used. Neuman and Koskinen (1992) found that visual and printed contexts that provide explicit, and thus redundant, information for incidental word learning, help English language learners gain vocabulary knowledge; the more linguistic competence the students have, the more vocabulary they acquired. This supports the need for direct teacher intervention with students who are below a threshold of linguistic competence in their new language. A vocabulary intervention designed to build vocabulary breadth and depth as well as to teach students strategies for acquiring word knowledge was found effective (McLaughlin et al., 1999). Finally, other promising practices to support comprehension include: scaffolding instruction through discourse; using multiple comprehension strategies, such as asking questions, making inferences, and searching for cognate vocabulary; and providing targeted professional development.

Special Programs

Family Literacy Programs

The parents of ELLs may not be literate in English. Parents who are literate in their native language, however, should be encouraged to use that language with their children in both conversations and literacy-related activities. Conversations in students' homes in a first

and/or second language have been shown to support the learning of a new language (Delgado-Gaitan, 1990). Native-language proficiency and skills have been shown to facilitate English-language proficiency and literacy (Garcia, 1998).

Shanahan, Mulhern, and Rodriguez-Brown (1995) implemented a family literacy program called FLAME for 300 Latino families with children 3-9 years old in Chicago. Parents attended twice weekly ESL/basic skills classes. The classes were designed to help parents read to their children in English. Parents learned how to share books in Spanish and English by talking about the pictures, making up stories, or listening to their children read. Parents who could share books in Spanish were encouraged to do so. Parents as Teachers classes met twice monthly. Topics included creating home literacy centers, book sharing, book selection, library visits, book fairs, teaching the ABCs, children's writing, community literacy, classroom observations, parent-teacher get-togethers, math for your child, and how parents can help with homework. Spanish was used for instruction and parents were taught to read in Spanish as a foundation for reading in English. After three years, FLAME had to move to another neighborhood so its staff provided Parents as Teachers seminars so the program could continue. Evaluations indicated that the family literacy program led to improved English proficiency for parents. Parent interviews and home observations (Mulhern, 1993) indicated that parents became more active in their children's education, had more literacy materials, and expressed greater confidence in sharing literacy with their children and helping them with homework.

Thornburg (1993) undertook a research initiative to examine the effects of an intergenerational literacy program, held for 2 hours weekly over a 6-month period, on the measured English proficiency of nine bilingual families (9 parents, 15 children). Eight of the families were Spanish-speaking; one spoke Arabic. Children were 2 years, 7 months to 5 years, 1 month. The program encouraged the parents to read storybooks at home, and to provide literacy-based activities to family members. These included hands-on projects related to the stories read, formal English instruction for the parents, and free play for the children. The intervention consisted of parents and teachers sitting in a circle and following in their own books as a teacher read books, as well as a hands-on art project thematically related to the stories. During the second hour, children played while parents participated in a group that emphasized vocabulary instruction, comprehension of larger passages, and review of efforts to read to children at home.

The researcher and an assistant conducted 16 observations of participants' conversations, using a format adapted from research on family literacy learning and classroom discourse. They also held semi-structured interviews with parents and teachers. Results of the pre-post comparisons of children's scores on the PLS and parents' scores on the CTBS revealed significant improvements. Frequencies of identified categories of parent-and-child discourse between the third and fifteenth observations were also compared and revealed several significant differences. Significant correlations were also found between participant test scores and differences in their use of identified categories of discourse. The

authors propose that teacher scaffolding strategies and parents' and children's efforts to linguistically mediate others' learning were integral to the gains in the families' second language proficiency.

Children with Learning Difficulties

Cline and Shamsi (2000) conducted a review of learning difficulties in literacy among children learning English as an additional language. Their review examines work mainly published from 1987 to 1999, referring to work before 1987 as background to the recent developments. Their aim was to identify English works that span English as an additional language (EAL) and special educational needs (SEN). They refer to 102 journal articles and other publications on SEN and learning difficulties in pupils from ethnic and linguistic minority communities. More selectively, the authors also aimed to identify material on the separate areas of SEN, assessment and literacy development which could illuminate the issues set out above. There are 264 published works cited in this category.

They found that the literature on learning difficulties in second language literacy is limited in quantity, reports little empirical research, and focuses on basic reading skills to the exclusion of other aspects of literacy. With regard to literacy learning and teaching, internationally, research has shown that most children learning to read in a second language show relatively little difficulty in developing skills in sounding words out and reading them aloud. Failure to do so after normal teaching is exceptional and, in a child learning EAL, may indicate literacy learning difficulties that are not just a result of speaking a different language at home (this presupposes adequate instruction). They also found that the texts used by schools present children learning EAL with a greater challenge in terms of vocabulary, syntactical knowledge, and cultural reference than is experienced by monolingual learners. Thus, their accuracy in reading words aloud is often superior to their ability to understand what they are reading, and their relative deficit compared to L1 readers is often greater in comprehension than in accuracy.

With regard to identification and assessment, local and regional surveys have indicated that children learning EAL are under-represented among SEN (special educational needs) children. Early identification of learning problems in literacy carries additional risks with readers learning EAL for two reasons. First, there is a greater likelihood these children will make mistakes identifying words, and labeling them as slow learners carries the risk of becoming a self-fulfilling prophecy. Second, important background information is often omitted in assessment reports on children learning EAL who have learning difficulties (i.e., reference to a first language).

There are no simple answers about language of assessment. The first step, however, is to evaluate children's knowledge and use of their first language and of English. All other steps in the process of assessment will need to take account of these findings. The use of L1

in assessments will only give children an advantage if they have regularly used it to study the subject area being tested. The development of a single special test will not constitute an adequate response to the challenges of assessment in this field. There is more support in the literature for a multifaceted strategy for assessment and consultation that draws on multiple sources of evidence. This includes a child's educational history and current educational provision. Note that there is a lack of systematic, theoretically-informed developmental work on strategies evaluating the school learning environments of children with EAL for the purposes of SEN assessment. When different assessment strategies are evaluated for their efficacy in use with children learning EAL, the approach that is usually least favorably viewed is the one that is most commonly used—normative assessment. There is a case for prioritizing research and development work on curriculum related assessment, dynamic assessment, and a hypothesis-testing framework for assessment.

CROSS-CUTTING ISSUES SURROUNDING THE DEVELOPMENT OF ENGLISH LITERACY[17]

Assessments and Benchmarks

Teachers need to know what knowledge and skills ELLs bring to reading and writing. Many of the current assessments designed for instructional purposes, including the rubrics used to score these assessments, were developed for fluent English-speaking students and may not tap into the issues encountered by ELLs as they read in English. Such issues include interference from the students' first language in the areas of phonology or writing (including spelling, syntax, text structure), as well as a lack of knowledge of "conventional" English words, a lack of depth of word knowledge, and unfamiliarity with the cultural content of text, all of which lead to lapses in reading comprehension. New York City and Chicago, for example, have assessments to gauge literacy, but these assessments were not developed specifically for ELLs. Teachers would also benefit from samples of student work that show how to meet literacy standards, with commentary regarding the strengths and weaknesses of the samples. Most exemplars available to teachers in reading and writing are for students who are English proficient.

Likewise, many language proficiency tests are available, but they are generally used to place students in special language programs, or to reclassify students as English proficient, not to monitor student progress toward meeting state literacy standards. Thus, they are not aligned with the standards, nor are they very good at measuring student growth in various

[17] Portions of this section are taken from a paper prepared by the author for ForLogic Corporation, Richardson, Texas. The author has their permission to excerpt these sections and wishes to acknowledge their support.

domains of literacy over time. The existing assessments, therefore, may not be useful for diagnosing student needs and developing strategies to meet these needs.

Accommodating Multiple Levels of Language and Literacy

A major issue in teaching ELLs is how to accommodate multiple levels of language and literacy within a classroom. This issue is of particular importance for teachers who have newcomers in the second and third grades, when the class has moved beyond early literacy instruction, and the demands of constructing meaning from text are far greater.

One successful method of addressing this issue is to use small group instruction in reading and oral language to help ensure that teachers are teaching English language learners at their particular reading level. This is a strategy used by Success for All. Children in first through third grades are regrouped for reading (Slavin & Madden, 2001). The children are assigned to heterogeneous, age-grouped classes of about 25 students for most of the day, but during a regular 90-minute reading period, they are regrouped by reading levels. The reading classes are smaller than homerooms because tutors and other certificated staff (such as librarians or art teachers) teach reading during this common period. In this way, teachers can target the specific, critical features of reading at students' performance levels. Clearly, these methods can be used in all classrooms by grouping students into small groups and working with each group individually. To accommodate multiple levels of language and literacy in these classrooms, it helps to use additional staff (e.g., peer-tutors, well-trained aides and volunteers, parents), as well as computer-assisted instruction aligned with the curriculum.

Another important strategy for accommodating individual differences during reading instruction, including whole group instruction, is "scaffolding." Teachers who scaffold instruction provide activities before, during, and after a reading lesson to ensure that students understand and have learned the material (Short, 2000). For example, teachers build background knowledge by linking concepts to students' backgrounds, learning, and experiences, and by emphasizing key vocabulary. They ensure "comprehensible input" by using speech that is appropriate for students' proficiency levels, explaining tasks clearly, and using a variety of techniques to make concepts clear (modeling, visuals, hands-on activities, demonstrations, gestures, body language). Research indicates that students in classrooms with teachers who used these techniques had better narrative and expository writing skills than their peers in classrooms with teachers untrained in these techniques.

Integrating Subject Matter Knowledge into Language Development and/or Focusing on Language Development in Teaching Subject Matter

The traditional ESL curriculum of the 1980s focused on linguistic aspects of English and stressed the vocabulary and grammatical structures needed for conversations, much like foreign language classes. Knowledge (not use) of vocabulary and language structures for conversation was presumed to be sufficient for students to learn academic content in English (see Chamot & O'Malley, 1996, for a critique of this position). Subsequent researchers (Genesee, 1987; Short, 2000) have demonstrated that students instructed in content learn concepts related to the content while also gaining English proficiency.

Similarly, teachers who teach subject matter to ELLs must be prepared to ensure that these learners understand classroom discussion and expository text. Schifini (1994) suggests that classroom teachers with no specialized training in linguistics consider the successful instructional strategies they have used in the past and how they might adapt these techniques to accommodate a wide range of second-language proficiency among students. He recommends that for all texts they are teaching, teachers become familiar with the text structure (for example, expository text structures such as comparison-contrast, description, enumeration, sequencing, cause and effect, and problem-solution), themes, key concepts and main ideas, and vocabulary that is necessary for understanding and/or may be difficult for ELLs. This includes idiomatic expressions and text features (for example, visuals, timelines, maps, charts, graphs, subheads, bold print, italics, and end-of-chapter summaries). Teachers should use this knowledge to structure instruction so that ELLs understand the subject matter they are reading.

CONCLUDING COMMENTS

Need for Additional Research

This report has reviewed research on the acquisition of English literacy by children whose first language is not English. Research that addresses literacy acquisition for English learners emanates from three distinct quarters (August & Hakuta, 1997). The first source of information is basic research on second language acquisition and the development and functioning of bilingual children within the domains of literacy, research that is essentially descriptive and not concerned with outcomes. The second source of information is program evaluation research; although this research examined outcomes for English-language learners, it focused narrowly on language of instruction, rather than on what exactly was happening within schools and classrooms. A third line of research has investigated the effectiveness of school and classroom instructional programs and practices more broadly. This line of research should be the one to which we turn when seeking answers to the

question: How do we best instruct English-language learners so they reach high levels of literacy?

"To make a determination that an instructional practice should be adopted more widely requires that the belief, assumption, or claim supporting the practice be causally linked to a particular outcome." This requires a randomized experiment or quasi-experimental study of "sufficient size or number, and scope," and quality (National Reading Panel, 2000). It also requires that the measures used to assess the outcomes are valid and reliable. In no way does this preclude the value of qualitative research. Qualitative research is extremely important in helping to generate hypotheses about potential interventions and the circumstances in which they are most likely to succeed. Without qualitative research we are unable to document what actually occurs during the implementation of an intervention in a randomized experiment or quasi-experimental study, making the interpretation of the outcomes very difficult.

Much of the research uncovered in the review, however, does not conform with the model described above; there are very few studies that provide rich descriptions of interventions and the contexts in which they are implemented within experimental or quasi-experimental studies. First, much of the research is not quasi-experimental or experimental, but descriptive. In some instances, effective practice is based on observations of schools and teachers considered effective, rather than on student outcomes. In other instances, the research consists of prospective case studies that examine differences between pre-test and post-test scores for one sample of students. Although the findings from the school/classroom research and the prospective case studies are useful for generating ideas about what practices might be effective, they do not provide generalizable answers about what is effective. Second, many of the quantitative studies do not fully describe the intervention or context in which it is implemented so that it is difficult to interpret the findings. Third, the assessments that are used to measure student outcomes may not be valid.

Thus, there is a desperate need for more theoretically-driven research that employs quasi-experimental designs and high quality assessments to examine the effectiveness of instructional practices designed to bolster the literacy of English language learners. In designing these interventions, it is important to consider variables that may impact the interventions, including child background (e.g., language proficiency, age, first language, home language use), school specifics that impact individual subjects (e.g. distribution of first and second language during the school day for a given child, access to special services), as well as the school sample (ethnic/racial mix of the school, poverty level of the school), and community characteristics (e.g., language use in the community). Further research needs to address the varied circumstances of English-language learners: variety of student populations (e.g., different levels of language proficiency, different ages); classroom setting (newcomer programs, children grouped homogeneously by language or heterogeneously); and components of literacy (e.g., fluency, word knowledge). An intervention designed for young children in heterogeneous classrooms (that include English-proficient students) will look

different from one designed for middle school students in a program for newcomers. Ultimately what is needed are interventions that will work for students of different ages, with a variety of backgrounds in different instructional settings geared to the acquisition of specific component literacy skills.

There are promising starting points for this research. First, we can build on what we have learned about effective practices for native English speakers combined with our knowledge of second language acquisition. For example, in recent work in England, Stuart (1999) sought to extend to English language learners previous findings that demonstrate phoneme awareness training, particularly when combined with letter-sound teaching, results in improved reading and spelling. The intervention he choose to explore was one that appeared promising for English-language learners, given what we know about how they acquire English. That is, central to the program are meaningful stories, pictures, and actions to reinforce recognition and recall of letter-sound relationships and precise articulation of phonemes. As noted earlier, this program significantly improved ESL students' English reading and spelling.

We can also build on interesting case studies. For example, a study by Wolf (1993) examined the use of Reader's Theater to enhance literacy. The focus of this study was three boys who were ESL students in a resource specialist classroom. Reader's Theatre was defined as the oral presentation of drama, prose, or poetry by two or more readers. Children read a story; made selective and analytic choices in transforming the story into a script through social negotiation; formulated, practiced, and refined their interpretation; and finally performed for an audience, reading aloud from hand-held scripts. According to the author, as a result of their involvement in Reader's Theatre, the three boys became experts in interpretation, direction, and set design.

Another case study conducted by Blum, Koskinen, Tennant, Parker, Straub, and Curry (1995) looked at the use of audio-taped books to extend classroom literacy instruction into the homes of second-language learners. The study took place in a first-grade classroom in a suburb of Washington, D.C. Five first-grade LEP students, aged 6-7½ from homes where very little English was spoken, participated. The students had mixed first languages. The study explored the effects of reading along with an audiotaped book at least three times individually or with a family member. Home-based repeated reading of books (A/Baseline) was compared to the home reading of books with audiotapes (B/Intervention). Children participated in baseline activities for either 5 or 9 weeks. They then read books with audiotapes. More specifically, three subjects spent 5 weeks rereading books and 11 weeks rereading books with audiotapes. Two subjects spent 9 weeks rereading books and 7 weeks rereading books with audiotapes. At the end of the treatment, all subjects returned to home reading of books only for 3 weeks. The researchers used 150 different books in English ranging from emergent to independent first-grade level. Fluency and self-monitoring were assessed on a weekly basis using the books children brought home and a coding system based on Clay (1993) that assessed the number and percent of words read accurately. Four other

measures were administered four times over the course of the study: letter identification, word recognition, hearing and recording sounds in words, and oral-reading behavior. Qualitative data suggest that all five students showed substantial growth over the baseline as demonstrated by their ability to fluently and accurately read books of increasing difficulty (criteria for fluency was smooth, natural, and expressive reading as determined by teacher judgement and word accuracy of 90% or more). Analysis of the child motivation/behavior surveys revealed that children were reading more at home and were excited about learning to read. Teachers also had positive attitudes about the program.

Use of Technology

Two final areas are especially worthy of attention. The first is the use of technology in helping ELLs become literate. Technology can be used to teach, as well as to assess, component skills of literacy. With regard to instruction, Meskill and Mossop (2000) surveyed ESOL professionals on their use and attitudes toward electronic texts (any information displayed on a computer), and observed K-8 classroom technology use. They found that 49% of the nearly 800 respondents reported using some form of computer technology. Teachers reported that: a) students were motivated by computer use (although not by self-study drills); and b) mastery of computer translated into higher status. In exemplary uses of technologies, teachers designed and implemented pre-computer and post-computer tasks that optimized focus on and use of L2 and literacy skills; learners continually benefitted from e-texts. The teachers particularly liked *Once Upon a Time* (1995), a multimedia product that allows children to hear and use semantically-grouped vocabulary items and manipulate illustrations to build stories and content-rich simulations.

Cummins (2001) is working on computer-supported approaches to making grade-level academic texts accessible to students whose language proficiency is several years below grade level. The program is based on the premise that written text can serve as input for the language learning process. Furthermore, the development of academic language proficiency requires that students get extensive access to the text and work with it to increase their understanding. Major features include: any text in electronic form can be imported into the program; students get one-click access to L1 and English dictionary support to facilitate understanding; and the program remembers the words that each student has clicked and provides individualized practice to assist them in learning this vocabulary. The exercises employ several varieties of cloze procedures and can be set at five different levels of difficulty. In practice mode, students get specific feedback and can demonstrate that they have learned previously unknown words by passing a test at difficulty level 3 or above. There is a grammar mode in which students can identify the different parts of speech in the text. If students wish, they can do practice exercises on these parts of speech. Students can also carry out language detective work, exploring aspects of meaning, form, and use of different words they choose, and practice creative writing in response to texts they have read.

With regard to using technology to assess children, the computer programs in development by Cummins employ the same cloze procedures used in the practice mode, but provide feedback after all items in the test have been completed. The system also tracks student progress for teachers. An early reading program in development by ForLogic also provides ongoing information to teachers regarding student progress in specific component skills of reading. Students engage in reading activities delivered to classroom or home computers via the Internet. Students are constantly assessed in the context of the instruction, and assessment results are reported to classroom teachers. Finally, recent work funded by the Educational Testing Service will use computers to collect fluency data on a large sample of students and will analyze the data to provide detailed information on students' intonation, stress, accuracy, and efficiency when reading a 1,000-word passage.

Development of Comprehension

The second area that warrants research attention is the development of comprehension in ELLs. Research indicates that ELLs who are not learning disabled acquire word reading skills in English comparatively easily. Where they differ most from strong English readers is in comprehension. There is a dire need for research that explores methods to build word knowledge, background knowledge, knowledge of connected discourse, and other skills associated with reading comprehension. There is also a need for good measures of reading comprehension. One worrisome event is that new federal (Title I) legislation focused on improving reading and math skills in children in high-poverty schools will be interpreted narrowly to focus on basic skills, rather than comprehension. The curriculum that supports the development of word and background knowledge essential for comprehension could be devalued (less time in social studies and science), reducing opportunities for ELLS to develop strong reading comprehension. Given this scenario, it is even more important to develop sound interventions to bolster reading comprehension in ELLs.

□□□□

It is hoped that this far-ranging report has provided a useful summary of current knowledge regarding the issues that English language learners face as they strive to become literate in English and some promising practices for assisting them in their efforts.

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